IN THE SPECIFICATION:

Please amend the specification as follows:

(1) The paragraph from page 1, line 29 to page 1, line 34 has been amended as follows:

In the conventional type multi-domain vertically aligned mode liquid crystal displays, it is necessary that such bumps or slits are formed on the transparent common electrode in the color filter side substrate, which ~~required~~ requires one excessive photo mask process. Therefore, in this conventional technology, cost increase is unavoidable.

(2) The paragraph from page 2, line 1 to page 2, line 7 has been amended as follows:

Moreover, in the vertically aligned mode liquid crystal displays with the bumps 5 formed in the color filter layer 3 side, as shown in Fig. 1, when a width, a pitch, and an angle of the slope of the bumps 5 are not precisely controlled, variation in the tilting degree of liquid crystal molecules 14 is occurred, which frequently causes unevenness in half tone ~~area~~ areas.

(3) The paragraph from page 2, line 8 to page 2, line 15 has been amended as follows:

Since the bumps are made of positive type photoresists, perfect removal of organic solvents, and furthermore hardening by baking at high temperatures of no less than 200 degrees are furthermore required, leading to difficulty in shortening the

processes. When contaminants are eluted out into liquid crystals from the bumps of positive type photoresists, a phenomenon of afterimage will occur, resulting in reliability problems.

(4) The paragraph from page 4, line 12 to page 4, line 35 has been amended as follows:

There is used a drive system in which: when a potential of the transparent pixel electrode separated for every pixel of an active matrix substrate side is lower than a potential of the countering flat common electrode on a color filter substrate side, a potential of the liquid crystal alignment direction control electrode ~~currently~~ placed in a lower layer of the slit of the transparent pixel electrode is set lower than a potential of the transparent pixel electrode; and when a potential of the transparent pixel electrode is higher than a potential of the countering flat common electrode of the color filter substrate side, a potential of the liquid crystal alignment direction control electrode placed in a lower layer of the slit of the transparent pixel electrode is set higher than a potential of the transparent pixel electrode, and potentials of the liquid crystal alignment direction control electrodes arranged in the vicinity of both sides of the scan signal wiring are set as polar potentials different from each other, and polarities of the potential of the transparent pixel electrode, and each of the potential of the two rows of the

liquid crystal alignment direction control electrodes mutually separated in one pixel are reversed to a polarity of ~~a polarity of~~ the potential of the flat common electrode in a color filter substrate side every vertical scanning period.

(5) The paragraph from page 5, line 32 to page 6, line 16 has been amended as follows:

There is used a drive system in which: when a potential of the transparent pixel electrode separated for every pixel of an active matrix substrate side is lower than a potential of the countering flat common electrode on a color filter substrate side, a potential of the liquid crystal alignment direction control electrode ~~currently~~ placed in a lower layer of the slit of the transparent pixel electrode is set lower than a potential of the transparent pixel electrode; and when a potential of the transparent pixel electrode is higher than a potential of the countering flat common electrode of the color filter substrate side, a potential of the liquid crystal alignment direction control electrode placed in a lower layer of the slit of the transparent pixel electrode is set higher than a potential of the transparent pixel electrode; and polarities of the potential of the transparent pixel electrode, and ~~of~~ the potential of the liquid crystal alignment direction control electrode are reversed to a polarity of a potential of the flat common electrode in a color filter substrate side every vertical scanning period.

(6) The paragraph from page 7, line 15 to page 8, line 6 has been amended as follows:

There is used a drive system in which: when a potential of the transparent pixel electrode separated for every pixel of an active matrix substrate side is lower than a potential of the countering flat common electrode on a color filter substrate side, a potential of the liquid crystal alignment direction control electrode ~~currently~~ placed in a lower layer of a slit of the transparent pixel electrode is set lower than a potential of the transparent pixel electrode; and when a potential of the transparent pixel electrode is higher than a potential of the countering flat common electrode of the color filter substrate side, a potential of the liquid crystal alignment direction control electrode placed in a lower layer of the slit of the transparent pixel electrode is set higher than a potential of the transparent pixel electrode; and potentials of the liquid crystal alignment direction control electrodes arranged in the vicinity of both sides of the scan signal wiring are set as polar potentials different from each other, and polarities of the potential of the transparent pixel electrode~~, and of each of the potential~~ and the potentials of the two rows of the liquid crystal alignment direction control electrodes mutually separated in one pixel are reversed to a polarity of a potential of the flat common electrode in a color filter substrate side every vertical scanning period.

(7) The paragraph from page 9, line 4 to page 9, line 23 has been amended as follows:

There is used a drive system in which: when a potential of the transparent pixel electrode separated for every pixel on an active matrix substrate side is lower than a potential of the countering flat common electrode on a color filter substrate side, a potential of the liquid crystal alignment direction control electrode ~~currently~~ placed in a lower layer of a slit of the transparent pixel electrode is set lower than a potential of the transparent pixel electrode; and when a potential of the transparent pixel electrode is higher than a potential of the countering flat common electrode of the color filter substrate side, a potential of the liquid crystal alignment direction control electrode placed in a lower layer of the slit of the transparent pixel electrode is set higher than a potential of the transparent pixel electrode; and polarities of the potential of the transparent pixel electrode, and of the potential of the liquid crystal alignment direction control electrode are reversed to a polarity of a potential of the flat common electrode in a color filter substrate side every vertical scanning period.

(8) The paragraph from page 11, line 18 to page 11, line 33 has been amended as follows:

In the method 5 and 7, there was adopted a structure that the slit forming a group with the liquid crystal alignment

direction control electrode are arranged in a parallel direction and in a perpendicular direction <u>relative</u> to a direction of the scan signal wiring so as to enclose two or more ~~of~~ circular or polygonal holes ~~currently~~ formed in the transparent pixel electrode in an active matrix substrate side; and the liquid crystal alignment direction control electrode encloses a periphery of the transparent pixel electrode while overlapping with the transparent pixel electrode via the insulated film; and polarization axes of two polarizing plates placed in exterior of a liquid crystal cell are arranged in a direction of the scan signal wiring and in a direction of the video signal wiring, and are arranged so that they may perpendicularly mutually intersect.

(9) The paragraph from page 12, line 13 to page 12, line 20 has been amended as follows:

In the method 1 and 5, all of the scan signal wirings and the liquid crystal alignment direction control electrodes are completely separated, and are connected to output terminals of different drive ICs, respectively; and contact ~~buttons~~ <u>terminals</u> of the two rows of liquid crystal alignment direction control electrodes for controlling one row of pixels are arranged so that they may be sandwiched between contact ~~buttons~~ <u>terminals</u> of different scan signal wirings.

(10) The paragraph from page 12, line 22 to page 12, line 30 has been amended as follows:

In the method 3 and 7, all of the scan signal wirings and the liquid crystal alignment direction control electrodes are completely separated and independent, and are connected to output terminals of different drive ICs, respectively; and contact ~~buttons~~ terminals of the one row of liquid crystal alignment direction control electrodes for controlling one row of pixels are arranged so that they may be sandwiched between contact ~~buttons~~ terminals of different scan signal wirings.

(11) The paragraph from page 12, line 23 to page 13, line 5 has been amended as follows:

In the method 1, 3, 5, and 7, contact ~~buttons~~ terminals of the scan signal wiring are arranged in either of right side or left side of a display screen part, and contact ~~buttons~~ terminals of the liquid crystal alignment direction control electrode are arranged on another side different from a side of the contact ~~buttons~~ terminals of the scan signal wiring, each contact ~~button~~ terminal is mutually completely separated and independent, and is connected to output terminals of different drive ICs, respectively.

(12) The paragraph from page 13, line 7 to page 13, line 15 has been amended as follows:

In the method 1 and 5, the scan signal wirings and the liquid crystal alignment direction control electrodes are completely separated and independent, each contact ~~button~~ terminal is arranged on both of right and left sides of a

display screen part, and contact ~~buttons~~ terminals of the two rows of the liquid crystal alignment direction control electrodes for controlling one row of pixels are arranged so that they may be sandwiched between contact ~~buttons~~ terminals of different scan signal wirings.

(13) The paragraph from page 13, line 17 to page 13, line 24 has been amended as follows:

In the method 3 and 7, all of scan signal wirings and liquid crystal alignment direction control electrodes are completely separated and independent, each contact ~~button~~ terminal is arranged on both of right and left sides of a display screen part, and contact ~~buttons~~ terminals of the one row of liquid crystal alignment direction control electrodes for controlling one row of pixels are arranged so that they may be sandwiched between contact ~~buttons~~ terminals of different scan signal wirings.

(14) The paragraph from page 13, line 26 to page 13, line 34 has been amended as follows:

In the methods 2, 4, 6, and 8, at the time of moving image displaying, a bias voltage impressed between the liquid crystal alignment direction control electrode ~~currently~~ formed in a lower layer of the slit of the transparent pixel electrode and the transparent pixel electrode is set higher than a voltage at the time of still picture displaying, and thereby, a tilting

speed of anisotropic liquid crystal molecules having a negative dielectric constant are set higher.

(15) The paragraph from page 20, line 14 to page 20, line 29 has been amended as follows:

In methods 24 and 25, there was adopted a structure that a slit forming a group with the liquid crystal alignment direction control electrode is arranged in a direction perpendicular to a direction and parallel to an extending direction of the scan signal wiring so that two or more circular or polygonal holes ~~currently~~ formed in the transparent pixel electrode in the active matrix substrate side may be surrounded; and the liquid crystal alignment direction control electrode encloses a periphery of the transparent pixel electrode while overlapping with the transparent pixel electrode via the insulated film; and polarization axes of two polarizing plates placed in exterior of a liquid crystal cell are arranged in a direction of the scan signal wiring and in a direction of the video signal wiring, and are arranged so that they may perpendicularly mutually intersect.

(16) The paragraph from page 22, line 26 to page 22, line 33 has been amended as follows:

This makes unnecessary formation of a bump 5 that had to be formed on a color filter side substrate of a vertically aligned mode liquid crystal display, for motion directional control of liquid crystal molecules, as is shown in

conventional method of Fig. 1. Moreover, this enables manufacture of a multi-domain vertically aligned mode liquid crystal display using a ~~cheap~~ low cost color filter, as shown in Fig. 4.

(17) The paragraph from page 23, line 30 to page 24, line 2 has been amended as follows:

In addition, since a liquid crystal alignment direction control electrode is arranged close to both sides of a video signal wiring and, as shown in Fig. 7, Fig. 8, Fig. 9, Fig. 10, Fig. 14, Fig. 16, Fig. 17, Fig. 18, and Fig. 25, a potential variation of a video signal wiring is easily shielded, which may completely control a cross talk generation in a ~~perpendicular~~ vertical direction.

(18) The paragraph from page 24, line 3 to page 24, line 9 has been amended as follows:

Use of the methods 16, 17, 18, 19, and 20 enables separate drive for every row of liquid crystal alignment direction control electrodes ~~currently~~ formed in a lower layer of slits of transparent pixel electrodes of each row, enabling uniform display by same conditions in all portions of upper part, central part, and lower part of a display screen.

(19) The paragraph from page 28, line 15 to page 28, line 18 has been amended as follows:

Fig. 13 shows a plan view of contact ~~button parts~~ terminals of scanning lines and liquid crystal alignment

direction control electrodes of a multi-domain vertically aligned mode liquid crystal panel of the present invention;

(20) The paragraph from page 28, line 32 to page 28, line 35 has been amended as follows:

Fig. 19 shows a plan view of contact ~~button parts~~ terminals of scanning lines and liquid crystal alignment direction control electrodes of a multi-domain vertically aligned mode liquid crystal panel of the present invention;

(21) The paragraph from page 36, line 20 to page 36, line 22 has been amended as follows:

Hereinafter, with reference to accompanying drawings, description about ~~desirable~~ preferred Example of the present invention will be provided.

(22) The paragraph from page 37, line 10 to page 37, line 20 has been amended as follows:

An electrode structure of the present invention has the following special features: there exist one another in one pixel a portion in which a long and slender slit 9, or a circular or polygonal hole is formed facing a flat transparent common electrode 4 on a color filter side, as shown in Fig. 2; and a portion in which a long and slender slit 9 and a liquid crystal alignment direction control electrode 15 having almost the same shape as the slit, and having a larger dimension than a dimension of the slit are formed facing the flat transparent common electrode 4 on a color filter side, as shown in Fig. 3.

(23) The paragraph from page 37, line 28 to page 38, line 8 has been amended as follows:

As shown in Fig. 4, Fig. 5, and Fig. 6, in Example 1, the liquid crystal alignment direction control electrodes 15 are arranged close to both of right and left sides of a video signal wiring 11. Since the liquid crystal alignment direction control electrode 15 shields a signal voltage variation of the video signal wiring 11, effect of the video signal wiring 11 is not transmitted to the transparent pixel electrode 8. As compared with the conventional vertically aligned mode liquid crystal displays shown in Fig. 1, a vertically aligned mode liquid crystal display of the present invention of Fig. 4 generates very little ~~perpendicular~~ vertical stroke. Since a width of BM (shading film (Black Matrix)) 2 of a color filter may also be set more narrowly than in conventional products, a vertically aligned mode liquid crystal display with a large aperture ratio ~~may be realizable~~ can be realized.

(24) The paragraph from page 39, line 3 to page 39, line 11 has been amended as follows:

Slits 9 are formed in a parallel direction ~~parallel direction~~ and a perpendicular direction relative to the scan signal wiring 17, and slits forming a group with a liquid crystal alignment direction control electrode 15 are extended in angle directions of ±45 degrees relative to the scan signal wiring direction. Slits forming a group with a liquid crystal

alignment direction control electrode may have a form like connected diamond-shapes, and may have a form like squares located in a line as shown in Fig. 28 and Fig. 29.

(25) The paragraph from page 40, line 5 to page 40, line 18 has been amended as follows:

As shown in Fig. 11 and Fig. 12, when a signal having a positive polarity is ~~written in~~ supplied to a transparent pixel electrode 8, a potential of a liquid crystal alignment direction control electrode ~~currently~~ formed via an insulator film 12 in a lower layer of a slit 9 of the transparent pixel electrode 8 has a positive polar potential higher than a potential of the transparent pixel electrode 8, and when a signal having a negative polarity is ~~written in~~ supplied to the transparent pixel electrode 8, a potential of a liquid crystal alignment direction control electrode ~~currently~~ formed via an insulator film 12 in a lower layer of a slit 9 of the transparent pixel electrode 8 has a negative polar potential lower than a potential of the transparent pixel electrode 8.

(26) The paragraph from page 40, line 19 to page 40, line 22 has been amended as follows:

Transparent pixel electrode 8, and liquid crystal alignment direction control electrodes 19 and 20 of two rows arranged in one pixel have exchanged polarity, respectively, every ~~perpendicular~~ vertical period.

(27) The paragraph from page 40, line 23 to page 40, line 27 has been amended as follows:

As shown in Fig. 7, slits 9 ~~currently~~ formed in a transparent pixel electrode 8 and liquid crystal alignment direction control electrodes 19 and 20 arranged in a lower layer of the slit are arranged ~~so as to make~~ <u>in</u> angles of ±45 degrees <u>relative</u> to a direction of a scan signal wiring 17.

(28) The paragraph from page 41, line 6 to page 41, line 18 has been amended as follows:

Fig. 8, Fig. 9, and Fig. 10 show a plan view of Example 4 of the present invention. This Example adopts a cross section structural figure of Example 1, and liquid crystal alignment direction control electrodes 19 and 20 enclose periphery of a transparent pixel electrode 8, which makes it difficult that the transparent pixel electrode 8 is influenced by a potential variation of a video signal wiring 11, and thus hardly generates a ~~perpendicular~~ <u>vertical</u> cross talk. Moreover, since <u>the</u> liquid crystal alignment direction control electrodes 19 and 20 and the transparent pixel electrode 8 are overlapped, a width of a shading film 2 of a color filter (BM) may be narrowed, and an aperture ratio ~~may~~ <u>can</u> be increased.

(29) The paragraph from page 41, line 34 to page 42, line 14 has been amended as follows:

Fig. 14 shows a plan view of Example 5 of the present invention. This Example adopts a cross section structural

figure of Example 1, and liquid crystal alignment direction control electrodes 19 and 20 enclose periphery of a transparent pixel electrode 8, which makes it difficult that the transparent pixel electrode 8 is influenced by a potential variation of a video signal wiring 11, and thus hardly generates a ~~perpendicular~~ vertical cross talk. This Example differs from Example 4 in a point that many circular holes 37 are formed in the transparent pixel electrode 8. As long as they are holes, polygonal forms may be of any kinds other than a circular form. Liquid crystal alignment direction control electrodes 19 and 20 of two rows exist in one pixel, and the same drive system as in Example 3 may be used. Arrangement of polarizing plates may be the same ~~arrangement as an arrangement~~ as that in Example 3.

(30) The paragraph from page 42, line 16 to page 42, line 31 has been amended as follows:

Fig. 16 shows a plan view of Example 6 of the present invention. This Example has a structure where two kinds, a cross section structural figure of Example 1 and a cross section structural figure of Example 2, are mixed inside one pixel. A liquid crystal alignment direction control electrode 15 of one row is arranged in one pixel, and adjacent transparent pixel electrodes 8 are connected, respectively, with a thin film transistor element 16 currently controlled by a different scan signal wiring 17. Forms of a long and slender

slit 9 ~~currently~~ formed in the transparent pixel electrode 8 and of the liquid crystal alignment direction control electrode 15 ~~currently~~ formed in a lower layer of the slit via an insulator film 12 are almost the same as that shown in Example 3, and are arranged to make angles of ±45 degrees to the direction of scan signal wiring 17.

(31) The paragraph from page 43, line 18 to page 43, line 20 has been amended as follows:

Fig. 22 and Fig. 23 show a driving method of Example 6. A driving method of the Example slightly differs from a driving method of Example 3 ~~a little~~.

(32) The paragraph from page 43, line 27 to page 44, line 11 has been amended as follows:

In Example 3, there is used a method that adjacent transparent pixel electrodes 8 are controlled by the same scan signal wiring 17 in Example 3, and video signals having different polarity, respectively, are ~~written in~~ supplied from a video signal wiring 11. In Example 6, there is used a method that the adjacent transparent pixel electrodes 8 are controlled by a different scan signal wiring 17, and video signals having the same polarity are ~~written in~~ supplied after a shift of one horizontal scanning-period from a video signal wiring 11. As Fig. 22 and Fig. 23 show, when a positive signal is ~~written in~~ supplied to a transparent pixel electrode, a potential of a liquid crystal alignment direction control electrode has a

positive ~~polar~~ potential higher than the transparent pixel electrode, and when a negative signal is ~~written in~~ supplied to the transparent pixel electrode, a potential of the liquid crystal alignment direction control electrode has a negative ~~polar~~ potential lower than the transparent pixel electrode. The transparent pixel electrode and the liquid crystal alignment direction control electrode reverse each polarity for every ~~perpendicular~~ vertical period.

(33) The paragraph from page 44, line 12 to page 44, line 31 has been amended as follows:

In all Examples of the present invention, it is possible to tilt the molecules of anisotropic liquid crystal having a negative dielectric constant 14 in a target direction from a perpendicular direction by setting a potential difference between a transparent pixel electrode 8 and liquid crystal alignment direction control electrodes 15, 19, and 20. In this case tilt angle may only be one - two degrees from a ~~perpendicular~~ vertical direction (90 degrees). Usually, a bias potential of no less than 4 - 5 V is impressed. When a high-speed response is required, it is necessary to set a tilt angle as no less than 10 degrees, and a bias potential of no less than 6 - 8 V is impressed in this case. When the present invention is used for a liquid crystal TV, it is effective to set a bias potential between a transparent pixel electrode 8 and liquid crystal alignment direction control electrodes 15,

19, and 20 larger. When the present invention is made to serve a double purpose for a ~~viewing display for~~ display of computers, and for a moving image displaying apparatus for TV, it is effective to ~~perform a circuit~~ design a bias circuit so that this bias potential may be variable.

(34) The paragraph from page 44, line 33 to page 45, line 11 has been amended as follows:

Fig. 17 and Fig. 18 show plan view of Example 7 of the present invention. This Example adopts a cross section structural figure of Example 1, a liquid crystal alignment direction control electrode 15 encloses a periphery of a transparent pixel electrode 8, which makes it difficult that the transparent pixel electrode 8 is influenced by a potential variation of a video signal wiring 11, and hardly generates a ~~perpendicular~~ vertical cross talk. One row of liquid crystal alignment direction control electrode 15 exists in one pixel, and adjacent transparent pixel electrodes 8 are connected to a thin film transistor element 16 controlled by a different scan signal wiring 17, respectively. A driving method of this Example is same as that shown in Example 6. Arrangement of polarizing plate is also same as that shown in Example 6.

(35) The paragraph from page 45, line 13 to page 46, line 5 has been amended as follows:

Fig. 25 shows a plan view of Example 8 of the present invention. This Example adopts a cross section structural

figure of Example 1, and a liquid crystal alignment direction control electrode 15 encloses a periphery of a transparent pixel electrode 8, which makes it difficult that the transparent pixel electrode 8 is influenced by a potential variation of a video signal wiring 11, and hardly generates a ~~perpendicular~~ vertical cross talk. One row of liquid crystal alignment direction control electrode 15 exists in one pixel, and adjacent transparent pixel electrodes 8 are connected to a thin film transistor element 16 controlled by a different scan signal wiring 17, respectively. A driving method of this Example is same as that shown in Example 6. Many circular holes are formed in the transparent pixel electrode 8. As long as they are holes, polygonal forms may be of any kinds other than a circular form. A rotatory polarization liquid crystal display mode may be realizable by blending one of chiral material of left-handed rotation or right-handed rotation to an anisotropic liquid crystal having a negative dielectric constant. In this case, a value of product of a liquid crystal cell gap d and a refractive index anisotropy Δn should just be in a range of 0.30 - 0.60 micrometer. Molecules of anisotropic liquid crystal having a negative dielectric constant tilt aligning in a shape of a swirl, while performing a left slewing motion or a right slewing motion centering on a circular hole, can pass a light from a backlight from perpendicularly arranged polarizing plates.

(36) The paragraph from page 46, line 7 to page 46, line 13 has been amended as follows:

Fig. 20 shows a plan view of active matrix substrate of Example 9 of the present invention. Both of contact ~~button parts of contact buttons~~ terminals 30, 33, and 36 of a scan signal wiring and contact ~~buttons~~ terminals 38 and 39 of a liquid crystal alignment direction control electrode are ~~gathered a in~~ provided at a left side of a display screen. Fig. 19 shows an ~~expansion~~ enlarged plan view of the contact ~~button part~~ terminal.

(37) The paragraph from page 46, line 14 to page 47, line 2 has been amended as follows:

Fig. 13 shows an ~~expansion~~ enlarged plan view of a contact ~~button part~~ terminal in the case where liquid crystal alignment direction control electrodes of two rows exist in one pixel. Fig. 13 shows an upper liquid crystal alignment direction control electrode contact ~~button~~ terminal 31 of n row, a lower liquid crystal alignment direction control electrode contact ~~button~~ terminal 32 of n row, an upper liquid crystal alignment direction control electrode contact ~~button~~ terminal 34 of (n+1) row, and a lower liquid crystal alignment direction control electrode contact ~~button~~ terminal 35 of (n+1) row. One scan signal wiring is sandwiched from both of upper side and lower side by liquid crystal alignment direction control electrodes of different rows. Polarity switching of upper-side and lower-

side liquid crystal alignment direction control electrodes is simultaneously performed based on a timing as shown in Fig. 33, and thereby a potential variation of the scan signal wiring may be controlled minimal, which suppresses generation of horizontal periodic unevenness in a display screen. As Fig. 13 show, a short-circuit between contact ~~buttons~~ terminals may be prevented by providing a distance between the contact ~~buttons~~ terminals 30, 33, and 36 of the can signal wiring, and the contact ~~buttons~~ terminals 31, 32, 34, and 35 of the liquid crystal alignment direction control electrode.

(38) The paragraph from page 47, line 3 to page 47, line 17 has been amended as follows:

Fig. 15 and Fig. 21 show a plan view of an active matrix substrate of Example 10 of the present invention. Contact ~~buttons~~ terminals 30, 33, and 36 of a scan signal wiring and contact ~~buttons~~ terminals 38 and 39 of a liquid crystal alignment direction control electrode are ~~separately~~ divided into left side and right side of a display screen, respectively. A driving method of this Example may be methods as shown in Fig. 11 and Fig. 12, and may be a method as shown in Fig. 33. In Example of the present invention, since a distance between contact ~~buttons~~ terminals is expandable by adopting arrangements shown in Fig. 15 and Fig. 21, a short-circuit between contact ~~buttons~~ terminals can be prevented. Furthermore, usual scan signal wiring drive IC in TN mode may

be used, which ~~enable~~ enables cost reduction in development and production.

(39) The paragraph from page 47, line 19 to page 47, line 27 has been amended as follows:

Fig. 26 and Fig. 27 show a plan view of an active matrix substrate of Example 11 of the present invention. Contact ~~buttons~~ terminals 30, 33, and 36 of a scan signal wiring and contact ~~buttons~~ terminals 31, 32, 34, 35, 38, and 39 of a liquid crystal alignment direction control electrode are provided in both of right and left ends of a display screen, which may solve easily a problem of delay of scan signal waveform, a largest problem when driving a large-sized liquid crystal display.

(40) The paragraph from page 47, line 33 to page 48, line 3 has been amended as follows:

Fig. 34, Fig. 35, and Fig. 38 show a sectional view, a circuit model view, and a plan view of Example 12 of the present invention. Fig. 51 and Fig. 52 show a manufacturing process flow of a TFT (Thin Film Transistor) array substrate of Example 12 of the present invention. Fig. 63 and Fig. 64 show an ~~expanded~~ enlarged sectional view of the TFT array substrate.

(41) The paragraph from page 48, line 12 to page 48, line 29 has been amended as follows:

In the active matrix substrate 1, after formation of the scan signal wiring 17, an insulator film 12 and an amorphous

silicone layer (non doped layer) 65 and an n^+ amorphous silicone layer 66 for ohmic contacts are deposited. A video signal wiring 11, a drain electrode, and a liquid crystal alignment direction control electrode 15 are simultaneously formed in the same layer after formation of a thin film transistor element ~~part~~. A thin film transistor element, a video signal wiring 11, a drain electrode, and a liquid crystal alignment direction control electrode 15 are possible to be prepared in the same layer simultaneously, using a half-tone exposure technique ~~currently~~ disclosed in Japanese Patent Laid-Open No.2000-066240. Fig. 64 shows a sectional view of a thin film transistor element and an active matrix substrate of Example 12 of the present invention using the half-tone exposure. In addition, Figs. 63 and 64 show a scanning line terminal area 64.

(42) The paragraph from page 48, line 30 to page 49, line 8 has been amended as follows:

As shown in Fig. 38, in Example 12 of the present invention, a number of thin film transistor elements required in one pixel is only two. A transparent pixel electrode 8 of n row and m column is connected with a thin film transistor element 16 formed in a position where a scan signal wiring of n row 17 and a video signal wiring of m column 11 intersect with each other, and a liquid crystal alignment direction control electrode 15 is connected with a thin film transistor

element 49 formed in a position where a scan signal wiring of (n-1) row 17 and a video signal wiring of (m+1) column 11 intersect with each other. Two kinds of slits are formed in the transparent pixel electrode 8, and Fig. 99 and Fig. 100 show ~~a cross section enlargement~~ enlarged cross sectional views of the slits.

(43) The paragraph from page 49, line 9 to page 49, line 27 has been amended as follows:

In a slit 9 of type in Fig. 99, when a voltage is impressed, vertically aligned liquid crystal molecules 14 tilt in directions shown in Fig. 99. In a slit of a type in Fig. 100, a liquid crystal alignment direction control electrode 15 is arranged via an insulator film on a lower layer of the slit. In a slit of a type in Fig. 100, when a voltage is impressed, vertically aligned liquid crystal molecules 14 tilt in directions shown in Fig. 100. Fig. 41 and Fig. 42 show modified methods of Fig. 99 and Fig. 100. Fig. 41 and Fig. 42 show an opening 59 ~~currently~~ formed in a transparent pixel electrode on a liquid crystal alignment direction control electrode 15. In Fig. 100, the liquid crystal alignment direction control electrode 15 has a larger size than that of a slit of the transparent pixel electrode 8, and overlaps each other via an insulator film. An important point of the present invention is ~~a point~~ that the transparent pixel electrode 8 and the liquid crystal alignment direction control electrodes 15

overlap one another via an insulator film 12 to form a capacitance.

(44) The paragraph from page 50, line 10 to page 50, line 15 has been amended as follows:

Fig. 40 and Fig. 43 show a sectional view and a plan view of Example 13 of the present invention. Fig. 53 and Fig. 54 show a manufacturing process flow of a TFT array substrate of Example 13 of the present invention. Fig. 61 and Fig. 62 show ~~an expanded~~ enlarged sectional ~~view~~ views of the TFT array substrate.

(45) The paragraph from page 50, line 27 to page 50, line 34 has been amended as follows:

A thin film transistor element, a video signal wiring 11, and a drain electrode are possible to be prepared in the same layer simultaneously, using a half-tone exposure technique ~~currently~~ disclosed in Japanese Patent Laid-Open No.2000-066240. Fig. 62 shows a sectional view of a thin film transistor element and an active matrix substrate of Example 13 of the present invention using the half-tone exposure.

(46) The paragraph from page 51, line 1 to page 51, line 24 has been amended as follows:

As shown in Fig. 43, in Example 13 of the present invention, a number of thin film transistor elements required in one pixel is only two. A transparent pixel electrode 8 of n row and m column is connected with a thin film transistor

element 16 formed in a position where a scan signal wiring of n row 17 and a video signal wiring of m column 11 intersect with each other, and a liquid crystal alignment direction control electrode 15 is connected with a thin film transistor element 49 formed in a position where a scan signal wiring of (n-1) row 17 and a video signal wiring of (m+1) column 11 intersect with each other. In Example 12, since a drain electrode of this thin film transistor element and a liquid crystal alignment direction control electrode 15 are simultaneously formed in the same layer, these are connected automatically~~, but~~. However, in Example 13, since a drain electrode of this thin film transistor element and a liquid crystal alignment direction control electrode 15 are not formed in the same layer, two contact holes 61 and 62 must be provided in order to electrically connect these two electrodes. Although existence of two thin film transistor elements 16 and 49 and one contact hole 56 ~~was enough~~ is sufficient for Example 12, Example 13 requires two thin film transistor elements 16 and 49 and three contact holes 56, 61, and 62, as shown in Fig. 43.

(47) The paragraph from page 51, line 26 to page 51, line 30 has been amended as follows:

Fig. 34, Fig. 36, and Fig. 39 show a sectional view, a circuit model view, and a plan view of Example 14 of the present invention. Fig. 55 and Fig. 56 show a manufacturing

process flow of a TFT array substrate of Example 14 of the present invention.

(48) The paragraph from page 52, line 9 to page 52, line 16 has been amended as follows:

A thin film transistor element, a video signal wiring, a drain electrode, and a liquid crystal alignment direction control electrode are possible to be prepared in the same layer simultaneously, using a half-tone exposure technique ~~currently~~ disclosed in Japanese Patent Laid-Open No.2000-066240. Fig. 68 shows a sectional view of a thin film transistor element and an active matrix substrate of Example 14 of the present invention using the half-tone exposure.

(49) The paragraph from page 53, line 16 to page 52, line 31 has been amended as follows:

In an active matrix substrate 13, after a scan signal wiring 17, a common electrode 48, and a liquid crystal alignment direction control electrode 15 are first formed in the same layer simultaneously, an insulator film 12, an amorphous silicone layer (non doped layer) 65, and an n^+ amorphous silicone layer 66 for ohmic contacts are deposited. A video signal wiring 11 and a drain electrode are simultaneously formed after formation of a thin film transistor element ~~part~~. A thin film transistor element, a video signal wiring 11, and a drain electrode are possible to be prepared in the same layer simultaneously, using a half-tone exposure

technique ~~currently~~ disclosed in Japanese Patent Laid-Open No.2000-066240. Fig. 66 shows a sectional view of a thin film transistor element and an active matrix substrate of Example 14 of the present invention using the half-tone exposure.

(50) The paragraph from page 54, line 17 to page 54, line 33 has been amended as follows:

Fig. 37 shows a timing chart ~~about~~ regarding a drive waveform ~~that is~~ in Example 16 of the present invention. This is a drive waveform for driving a vertically aligned mode liquid crystal display described in Examples 12, 13, 14, and 15. ~~Here may be given an~~ An important aspect of the present invention in Example 16 is that:

a scan signal waveform of a scan signal wiring of (n-1) row (address signal width) 52 and a signal waveform of a scan signal wiring of n row (address signal width 55 have a time width of at least no less than twice of a horizontal period, and mutually overlap by a time width no less than one horizontal period; and a polarity of a ~~video signal~~ voltage of a video signal wiring of m column and a polarity of a ~~video signal~~ voltage of a video signal wiring of (m+1) column ~~have a polarity~~ are different from each other and ~~have polarities~~ mutually reversed every horizontal period.

(51) The paragraph from page 55, line 1 to page 55, line 12 has been amended as follows:

When a drive system of the present invention is used, ~~charging may be enabled to~~ it is possible to charge a capacitance C2 of a circuit model figure (capacitance C2 is a capacitance formed when a transparent pixel electrode and a liquid crystal alignment direction control electrodes mutually overlap via an insulator film), when a signal waveform of a scan signal wiring of (n-1) row and a signal waveform of a scan signal wiring of n row mutually overlap, as shown in Fig. 47, Fig. 48, Fig. 49, and Fig. 50. Here, Fig. 48 shows a potential of a position shown by A and B in a circuit model figure of Fig. 47, and Fig. 50 shows a potential of a position shown by A and B in a circuit model figure of Fig. 49.

(52) The paragraph from page 55, line 13 to page 56, line 2 has been amended as follows:

In Fig. 47 and Fig. 48 a liquid crystal alignment direction control electrode is connected with a thin film transistor element formed in a position where a video signal wiring of (m+1) column intersects a scan signal wiring of (n-1) row, a transparent pixel electrode is connected with a thin film transistor element formed in a position where a scan signal wiring of n row and a video signal wiring of m column intersect with each other. When both of scanning lines of (n-1) row and n row are ~~addressed~~ selected in case of a video signal wiring of m column having +7 V and a video signal wiring of (m+1) column having -7 V, the above-mentioned two thin film

transistor elements operate, and a capacitance C2 is charged and potentials of A and B ~~obtain~~ <u>become</u> +7 V and -7 V, respectively. After the scanning line of (n-1) row is closed, when a polarity of a voltage of the video signal wiring of m column is changed to -7 V from +7 V and a polarity of a voltage of the video signal wiring of (m+1) column is changed to +7 V from -7 V, since a thin film transistor element of n row is operating, a potential of A of capacitance C2 ~~varies~~ <u>changes</u> to -7 V from +7 V. Since a thin film transistor element of (n-1) row is not operating at this time, a potential of B of capacitance C2 ~~varies~~ <u>changes</u> to -21 V from -7 V. Next, when the scanning line of n row is closed, ~~in potential~~ <u>potentials</u> of pixel of n row m column capacitance ~~C2,~~ <u>C2 are changed so that</u> A is fixed to -7 V and B <u>is fixed</u> to -21 V.

(53) The paragraph from page 56, line 3 to page 56, line 15 has been amended as follows:

Same operation is performed after one ~~perpendicular~~ <u>vertical</u> period, and since a polarity of the signal voltage of video signal wiring of m column and a polarity of the signal voltage of video signal wiring of (m+1) column are reversed, in potential of capacitance C2 after one ~~perpendicular~~ <u>vertical</u> period, A is fixed to +7V, and B <u>is fixed</u> to +21V. Such potential relationship occurs, thereby ~~a~~ distribution of equipotential line as shown in figure are realized, and a motion direction of liquid crystal molecules may be determined.

Since a large electric field is generated between the transparent pixel electrode and the liquid crystal alignment direction control electrode, ~~large~~ a high motion speed of liquid crystal molecule ~~may~~ can be realized.

(54) The paragraph from page 56, line 16 to page 57, line 6 has been amended as follows:

In Fig. 49 and Fig. 50, a liquid crystal alignment direction control electrode is connected with a thin film transistor element formed on a scan signal wiring of (n-1) row, and a source electrode of this thin film transistor element is connected with a common electrode of n ~~rows~~ row. A transparent pixel electrode is connected with a thin film transistor element formed in a position where a scan signal wiring of n row and a video signal wiring of m column intersect with each other. When both of scanning lines of (n-1) row and n row are ~~addressed~~ selected in case of a video signal wiring of m column having +7 V and a video signal wiring of (m+1) column having -7 V, the above-mentioned two thin film transistor elements operate, and a capacitance C2 is charged and potentials of A and B ~~obtain~~ become +7 V and 0 V, respectively. After the scanning line of (n-1) row is closed, when a polarity of a voltage of the video signal wiring of m column is changed to -7V from +7V and a polarity of a voltage of the video signal wiring of (m+1) column is changed to +7V from -7V, since a thin film transistor element of n row is operating, a potential of

A of capacitance C2 ~~varies~~ changes to -7V from +7V. Since a thin film transistor element of (n-1) row is not operating at this time, a potential of B of capacitance C2 ~~varies~~ changes to -14V from 0 V. Next, when the scanning line of n row is closed, in potential of pixel of n row m column capacitance C2, A is fixed to -7 V and B to -21 V.

(55) The paragraph from page 57, line 7 to page 57, line 15 has been amended as follows:

Same operation is performed after one ~~perpendicular~~ vertical period, and since a polarity of the signal voltage of video signal wiring of m column and a polarity of the signal voltage of video signal wiring of (m+1) column are reversed, ~~in~~ the potential of capacitance C2 after one ~~perpendicular~~ vertical period is changed so that, A is fixed to +7 V, and B is fixed to +14 V. Such potential relationships occur, thereby ~~a~~ distribution of equipotential line as shown in figure may be realized, and a motion direction of liquid crystal molecules may be determined.

(56) The paragraph from page 60, line 1 to page 60, line 5 has been amended as follows:

~~Generation of~~ When disclination ~~has~~ is occurred, there arises a tendency ~~for~~ that a transmittance of a liquid crystal panel and also for a speed of response ~~to be~~ are reduced. A ~~seed~~ speed of response and a transmittance may be improved by adopting a form of the present invention.

(57) The paragraph from page 60, line 22 to page 60, line 35 has been amended as follows:

On the contrary, ~~B type~~ a type shown in Fig. 98 has a structure arrangement that: in a pixel of n row m column, a video signal wiring of m column and a liquid crystal alignment direction control electrode used for the pixel of n row m column are connected via a thin film transistor element in a position where a scan signal wiring of (n-1) row and a video signal wiring of m column intersect with each other; and a video signal wiring of (m+1) column and a transparent pixel electrode used for the pixel of n row m column are connected via a thin film transistor element in a position where a scan signal wiring of n row and a video signal wiring of (m+1) column intersect with each other. The present invention includes both of ~~A type structure and B type structure~~ the types of structure shown in Fig. 97 and Fig. 98.

(58) The paragraph from page 61, line 18 to page 61, line 27 has been amended as follows:

Use of electrode structures, structure arrangements, and driving methods of the present invention ~~may enable~~ enables production of active matrix substrates having a large aperture ratio, and ~~may provide bright~~ thus able to provides viewing displays of high brightness. Furthermore, since it ~~may~~ can improve a speed of response of liquid crystal molecules, very large-sized liquid crystal TVs responding animated pictures ~~may~~

can be realized. In addition, it ~~may~~ can realize a uniform black display with ~~little~~ decreased light leakage in a dark room as compared with the conventional vertically aligned mode liquid crystal displays using bumps.